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OREGON AGRICULTURAL EXPERIMENT STATION
W. A. Schoenfeld, Director

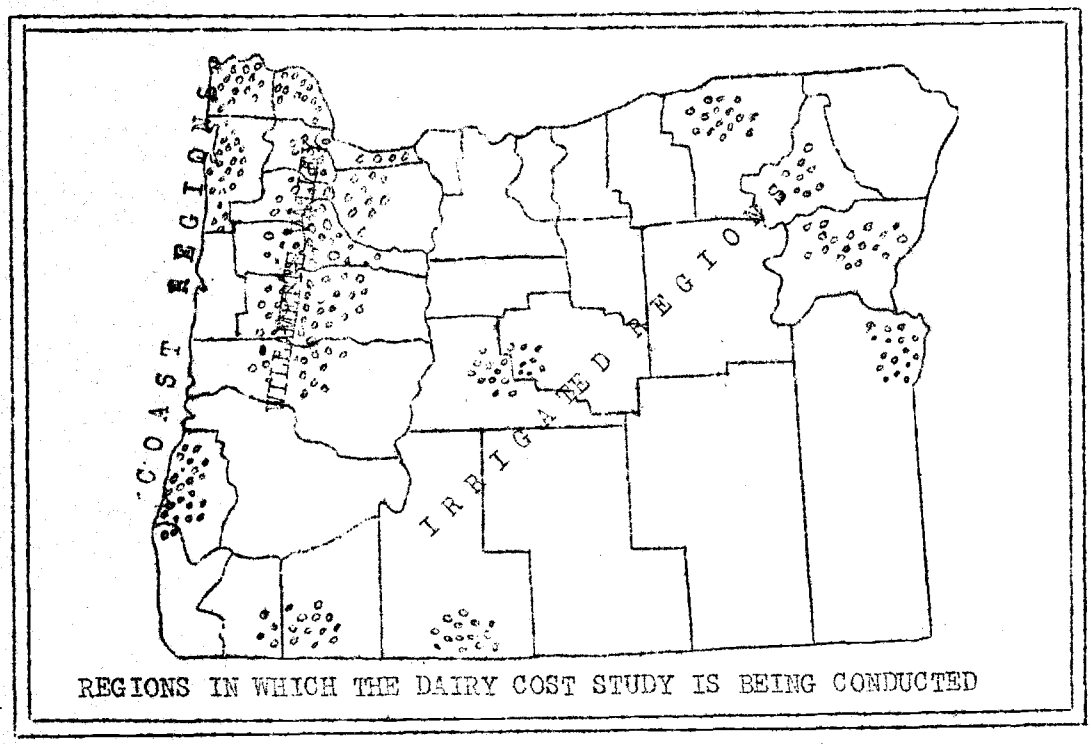
COST OF PRODUCING MILK AND BUTTERFAT IN OREGON

Year ending April 1, 1931

Progress Report No. 2
Dairy Cost Study
(Purnell Fund)

By

H. E. Selby and A. S. Burrier
DEPARTMENT OF FARM MANAGEMENT
and
P. M. Brandt
DEPARTMENT OF DAIRY HUSBANDRY



REGIONS IN WHICH THE DAIRY COST STUDY IS BEING CONDUCTED

Corvallis, Oregon
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CONTENTS

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THE AVERAGE COST AND SELLING PRICE

The dairy enterprise on Oregon farms during the year ending April 1, 1931 gave an average return of slightly more than prevailing wages for the work of the dairyman and members of his family in caring for the cows and five percent on the capital investment involved, according to the results of the second year of this study.

This comparatively favorable showing for last year was made possible by the fact that feed prices went down before the big drop in prices of milk and butterfat, which did not come until the early part of 1931. The situation as to cost and selling price since April 1, 1931 will be brought out by a continuation of the study for a third year.

Table 1.
SUMMARY OF COST OF PRODUCING MILK AND BUTTERFAT IN OREGON
Year ending April 1, 1931

514 farms - 8803 cows - 2,458,619 lbs. butterfat

	Willamette Valley	Coast Regions	Irrigated Regions	All Regions
NUMBER OF FARMS	276	101	137	514
NUMBER OF COWS PER FARM	13	30	16	17
POUNDS OF MILK PER COW	6533	6453	5876	6346
AVERAGE TEST OF MILK	4.4	4.4	4.5	4.4
POUNDS BUTTERFAT PER COW	287	282	262	279
	Annual Cost Per Cow			
Roughage	$ 23	$ 22	$ 33	$ 25
Succulents	15	11	3	11
Concentrates	27	13	9	18
Pasture	6	16	10	10
TOTAL FEED	$ 71	$ 62	$ 55	$ 64
Labor	39	29	34	35
Use of buildings	8	6	5	6
Use of equipment	3	2	2	2
Sire cost	3	3	3	3
Interest on value cows (5%)	5	5	5	5
Depreciation of cows	6	5	5	5
Miscellaneous	7	5	5	6
TOTAL GROSS COST PER COW	$142	$117	$114	$126
Credit for calves	5	3	5	4
Credit for manure	10	5	5	7
Credit for skim milk	4	1	11	4
TOTAL NET COST PER COW	$123	$108	$ 93	$111
COST PER 100 LBS. MILK	$1.89	$1.67	$1.58	$1.74
COST PER POUND BUTTERFAT	.43	.38	.36	.40
AVE. PRICE REC'D PER LB. B.F.*	.44	.40	.37	.41

*This is the average price received on the farm for the combined sales of cream, condensery milk, market milk, etc.

For explanation of the various cost items see page 12.

The average cost of production for the year ending April 1, 1931 was found to be 40 cents per pound of butterfat in the milk or cream sold, as shown in Table 1. This is a reduction of 20 percent from the average cost of 50 cents per pound for the preceding year, as a result of lower wages and feed prices.

The average price received during the year was 41 cents per pound of butterfat, or one cent more than the cost of production. Since the cost of production as computed in this study includes wages at prevailing rates for the work of the dairyman and his family, and five percent interest on the entire capital investment involved in the dairy enterprise, the average price of 41 cents gave a return of slightly more than prevailing wages and five percent on the investment.

It should be pointed out, however, that the fact that the average dairy enterprise paid a return of more than five percent on the investment does not necessarily mean that the dairyman made money on his farm as a whole. In this study the dairy enterprise is separated from the other parts of the farm business, including the raising of feed. Some farms showing a satisfactory profit from the cows above last year's comparatively low feed prices might, therefore, at the same time have shown a loss in producing the feed at the prices at which it was charged to the cows. A previous three-year study of the cost of producing forage crops in Oregon (Oregon Experiment Station Bulletins 241, 248, and 251) indicates, however, that forage crops can be produced at lower costs than the average prices for last year, which were $10 per ton for hay and $4 per ton for succulent feed.

For explanation of the various cost items and of the methods used in this study see page 12. The charge for succulent feeds for the second year has been reduced from $5 to $4 per ton, in line with the reduced prices of other feeds; and the price at which skim milk is credited has been reduced from 35 to 30 cents per 100 pounds. The average values given by the dairymen for roughage, concentrates, pasture, and labor for the second year are as follows:

	Willamette Valley	Coast Regions	Irrigated Regions	All Regions
Roughage, per ton	$10	$12	$ 9	$10
Concentrates, per ton	27	32	28	28
Pasture, per month	$1.62	$2.38	$1.81	$2.00
Labor, per hour	.27	.29	.27	.28

As the study is continued for another year and further analysis is made of the data some of the figures given in this progress report may be slightly modified. It should be kept in mind, therefore, that these figures are preliminary and tentative, and are subject to revision in the final report. It is not thought, however, that any such revisions will materially affect conclusions to be drawn from these figures.

Comparative Costs in Different Regions

The average cost of production per pound of butterfat in the Willamette Valley for the year ending April 1, 1931 was five cents higher than in the coast regions and seven cents higher than in the irrigated

Table 2.

CASH AND NON-CASH COST OF MILK AND BUTTERFAT

Year ending April 1, 1931 - All Regions

ITEMS		ANNUAL COST PER COW		
		Total Cost	Cash	Non-Cash
Purchased feed:	Roughage	$ 2.04	$ 2.04	$ --
	Succulents	.07	.07	--
	Concentrates	11.63	11.63	--
	Pasture	.81	.81	--
TOTAL PURCHASED FEED		$ 14.55	$ 14.55	$ --
Home-grown feed:	Roughage	$ 22.90	$ 11.45	$ 11.45
	Succulents	10.39	5.19	5.20
	Concentrates	6.54	3.27	3.27
	Pasture	9.52	4.76	4.76
TOTAL HOME-GROWN FEED		$ 49.35	$ 24.67	$ 24.68
Operator's labor		$ 20.33	$ --	$ 20.33
Unpaid family labor		8.03	--	8.03
Hired labor		6.33	6.33	--
TOTAL LABOR		$ 34.69	$ 6.33	$ 28.36
Building repairs		$ .44	$ .44	$ --
Equipment repairs		.50	.50	--
Sire maintenance		2.36	1.18	1.18
Veterinary expense		.39	.39	--
Salt and mineral		.51	.51	--
Bedding		.52	.26	.26
Gas, oil and electricity		1.14	1.14	--
Taxes		1.11	1.11	--
Other miscellaneous expense		1.99	1.99	--
TOTAL MISCELLANEOUS		$ 8.96	$ 7.52	$ 1.44
Depreciation of buildings		$ 2.84	$ --	$ 2.84
Depreciation of dairy equipment		1.37	--	1.37
Depreciation of sires		.40	.33	.07
Depreciation of cows		5.29	3.22	2.07
TOTAL DEPRECIATION		$ 9.90	$ 3.55	$ 6.35
Interest on buildings		$ 3.17	$ --	$ 3.17
Interest on dairy equipment		.57	--	.57
Interest on sires		.22	--	.22
Interest on cows		4.78	--	4.78
TOTAL INTEREST		$ 8.74	$ --	$ 8.74
TOTAL GROSS COST		$ 126.19	$56.62	$ 69.57
Credit for calves		4.09	--	4.09
Credit for manure		6.88	--	6.88
Credit for skim milk		4.45	--	4.45
TOTAL NET COST PER COW		$ 110.77	$ 56.62	$ 54.15
COST PER 100 LBS. MILK		1.74	.89	.85
COST PER POUND OF BUTTERFAT		.40	.21	.19

regions of eastern Oregon (Table 1). The higher cost in the Willamette Valley was offset for many of the producers, however, by the larger outlet for fluid milk at comparatively higher prices. More than a third of the production in the Willamette Valley was sold as fluid milk in Portland and valley towns.

The study indicates that the lower costs in the coast counties are made possible by the larger amount of pasture available, with less necessity for grain feeding. The lower costs in eastern Oregon apparently result from the use of irrigated pastures, heavier feeding and lower market value of alfalfa hay, and less grain feeding. Whether or not the lighter grain feeding is an economical practice, however, is not yet fully determined.

Cash and Non-Cash Cost

The cost of producing milk and butterfat includes various non-cash items, only about half of the total cost consisting of immediate cash expenditures, as shown in Table 2. The principal non-cash costs are the value of the labor of the dairyman and members of his family that is not paid for in cash; depreciation of buildings, equipment and stock; and interest on the capital investment. In Table 2 these items have been itemized and grouped to bring out their comparative importance and make it possible to omit any of these charges if this should be desired for special purposes.

Cost studies of feed crops have shown that about half of their cost is non-cash, and hence the home grown feed has been entered as half cash and half non-cash. Also approximately half of the sire maintenance is cash cost for items similar to the cash costs for the cows. About three-fifths of the depreciation charge on the cows is cash cost for stock purchased and the cash costs in raising replacements. No charge is shown for interest on land since the use of the land for raising feed crops is covered by the value at which the feed has been charged to the cows.

The producer should realize, however, that much of the non-cash cost directly represents cash expenditure. Depreciation must be met sooner or later by cash expenditure for replacements. Even part of the interest, on many farms, is actual cash expenditure in the form of interest on borrowed money.

Cost in Quantities of Feed and Labor

Feed and labor make up more than three-fourths of the total cost of milk and butterfat. Although prices of feed and wages for labor vary from time to time there is much less change in the quantities that are used, which are shown in Table 3. These amounts are for the milking cows only, not including feed and care of young stock.

By applying current prices to these amounts of feed and labor the cost of production may be approximated for any price level.

Table 3.
AMOUNTS OF FEED AND LABOR PER COW ANNUALLY
Average of two years ending April 1, 1931

	Willamette Valley	Coast Regions	Irrigated Regions	All Regions
Roughage (lbs.)	4868	3487	6989	4904
Succulents "	7282	5494	1332	5225
Concentrates "	2054	832	664	1296
Pasture (days)	107	204	164	154
Operator's labor (hrs.)	78	52	78	69
Unpaid family labor "	41	27	33	34
Hired labor "	26	23	14	22
Total labor	145	102	125	125

CHANGE IN NUMBER AND VALUE OF COWS

In spite of the drop in prices of dairy products during the year ending April 1, 1931 the dairymen included in the study have increased rather than decreased the size of their herds, (Table 4). The average number of cows per farm increased from 17 to 18 from the beginning to the end of the year.

Table 4.
CHANGE IN AVERAGE SIZE OF HERDS AND AVERAGE VALUE OF COWS
FROM APRIL 1, 1930 to APRIL 1, 1931.

	Cows per Farm		Value per Cow	
	Apr.1, 1930	Apr.1, 1931	Apr. 1,1930	Apr.1,1931
Willamette Valley	13	14	$103	$88
Coast Regions	30	32	104	84
Irrigated Regions	15	16	109	86
All Regions	17	18	$105	$86

The average value of the cows according to the judgment of the cooperating dairymen dropped from $105 to $86 from the beginning to the end of the year. This decrease in inventory value of the cows is not included as part of the cost of producing milk and butterfat, since over a period of years increases in the value of the cows will offset the decreases.

Culling, Death Loss, and Replacements

On the 514 farms included in the second year of the study there were 8659 milking cows at the beginning of the year, April 1, 1930; 1779 cows were sold, 200 died, 523 were purchased, and 2059 heifers freshening for the first time were added to the milking herds, making a total of 9262 cows on the farms at the end of the year, April 1, 1931.

Of the 1779 cows that were sold, 697 were sold for dairy purposes at an average price of $79, and 1082 were sold for beef at an average price of $43. The average price of the 523 cows purchased was $78, and the average value placed on the 2059 heifers freshening for the first time was $72.

Causes of Death Losses

Bloat, calving, and accidents were the most frequent causes of deaths of cows. In eastern Oregon bloat alone accounted for a third of the total death loss.

Table 5.
CAUSES GIVEN BY THE DAIRYMEN FOR DEATHS OF COWS
Year ending April 1, 1931

	Number of Deaths			
	Willamette Valley	Coast Regions	Irrigated Regions	All Regions
Bloat	8	2	22	32
Calving	15	4	9	28
Accidents	10	11	5	26
Poisoning	10	3	6	19
Indigestion, impaction, etc.	8	2	4	14
Milk fever and garget	7	1	6	14
Swallowing wire or nails	11	2	-	13
Old age	3	5	5	13
Miscellaneous causes	9	3	7	19
Cause unknown	10	7	5	22
Totals	91	40	69	200

VARIATION IN COST

In the state as a whole 13 percent of the dairymen had costs of less than 30 cents per pound of butterfat (Table 6). At the other extreme, however, 6 percent of the dairymen were producing at costs of over 60 cents per pound.

Table 6.
VARIATION IN COST OF PRODUCING BUTTERFAT
Year ending April 1, 1931

Cost per Lb. B.F.	Percentage of Farms			
	Willamette Valley	Coast Regions	Irrigated Regions	All Regions
Under 30¢	8%	7%	27%	13%
30 - 39¢	29	42	46	36%
40 - 49¢	37	37	19	32%
50 - 59%	18	8	7	13%
60¢ & over	8	6	1	6%
All farms	100%	100%	100%	100%

With the average selling price for the year ending April 1, 1931 of 41 cents per pound of butterfat it is apparent from Table 6 that a large part of the dairymen in Oregon were making very satisfactory profits, and that many were making large profits. Many others, however, were producing at a big loss. What accounts for this wide variation in costs and profits on different farms?

FACTORS AFFECTING COST

Determining the factors that affect the cost of dairy products, and what individual dairymen can do to change these factors to reduce their costs of production and thus increase their profits are the major objects of this study. Analysis of the data to bring out these factors is being made as rapidly as resources permit but can not be completed until after the completion of the third year of the study.

In the following pages, however, are presented a few conclusions that seem warranted at this time. It is anticipated that the completion of the analysis of the data will bring out the relation to cost of production of additional factors such as the amount of grain fed, butterfat test of the milk, purebred vs. grade cows, season of freshening, etc.

Yield Per Cow

In Table 7 is shown the average cost of production with varying average yields of butterfat per cow. It cost nearly 60 percent more to produce a pound of butterfat on the farms with less-than-200-pound cows than on the farms with 400-pound cows.

Table 7.
COSTS ARE LOWER WITH HIGHER PRODUCING COWS
Year ending April 1, 1931 - All Regions

Lbs. Butterfat per Cow Annually	Number of Farms	Cost per Pound of Butterfat
Under 200	41	46¢
200 - 250	114	43¢
250 - 300	155	39¢
300 - 350	131	38¢
350 - 400	62	38¢
Over 400	11	29¢

Size of Herd

As shown in Table 8, larger herds have considerable advantage in lower cost of production; particularly in the items of labor, use of buildings and equipment, and sire cost. The lower feed cost for the larger herds is due chiefly to the fact that they used more pasture. The difference in amount of credits is chiefly in the credit for manure; the larger herds, having more pasture required less barn feeding, and consequently less manure accumulated.

Table 8.
COSTS ARE LOWER WITH LARGER HERDS
Year ending April 1, 1931 - Coast Regions

Items	Number of Cows Per Farm			
	Under 10	10-19	20-49	50 and Over
Number of farms	10	28	50	13
Ave. no. cows per farm	8	14	30	83
Lbs. butterfat per cow	266	291	287	274
	Annual Costs per Cow			
Feed	$ 72	$ 60	$ 64	$ 60
Labor	42	38	30	24
Building and equipment	13	11	8	6
Sire	5	3	2	2
Other costs	10	15	16	12
Total gross cost per cow	$142	$127	$120	$104
Credits	11	11	8	6
Total net cost per cow	$131	$116	$112	$ 98
Cost per pound B.F.	$.50	$.40	$.39	$.36

Amount of Pasture

Pasture in most cases is the cheapest form of feed for dairy cows and consequently, other things being equal, the more pasture, the lower the cost of production. In Table 9 the total digestible nutrients in the ration fed has been computed for each herd and the records have then been grouped according to the proportion of the T.D.N. that was received from pasture.

The lower feed cost with more pasture is apparent, and also the lower labor cost as a result of less barn feeding. The amount of credits is also less, however, chiefly because of the smaller accumulation of manure with less barn feeding. The average production per cow was lower for the farms with more pasture, but in spite of this the average cost per pound of butterfat was also considerably lower.

Table 9.
MORE PASTURE GIVES LOWER COSTS
Year ending April 1, 1931 - Coast regions

	% of feed (T.D.N.) from Pasture		
	Under 20%	20 - 29%	30% and Over
Number of farms	29	40	32
Cows per farm	24	23	43
Lbs. butterfat per cow	302	291	266
	Amount of Feed per Cow Annually		
Roughage (lbs.)	5527	3682	3030
Succulents "	11683	4393	3067
Concentrates "	1396	919	485
Pasture (days)	118	210	245
	Annual Costs per Cow		
Total feed cost	$ 78	$ 63	$ 53
Labor	34	30	26
Other costs	29	28	20
Total Gross Cost	$141	$121	$ 99
Credits	13	7	5
Total Net Cost Per Cow	$128	$114	$ 94
Cost per lb. B.F.	$.42	$.39	$.35

Whole Milk Vs. Butterfat Production

Table 10 gives a comparison of the principal types of dairying in Oregon, using only the records of farms that produced one type of product exclusively.

The higher cost for market milk production is caused by additional investment in buildings and equipment, and extra labor and expense, that are necessary in meeting sanitary requirements for city milk supplies. That this difference is not greater than five cents per pound of butterfat as shown in Table 10 is partly due to the lower production per cow on the butterfat farms, and also to the smaller average number of cows per farm.

Table 10
COMPARATIVE COSTS FOR PRINCIPAL TYPE S OF DAIRYING IN OREGON*
Year ending April 1, 1931

	Willamette Valley			Coast Regions	Irrigated Regions
	Butterfat	Condensery Milk	Market Milk	Cheese Factory Milk	Butterfat
Number of farms	74	29	79	54	107
Cows per farm	9	11	17	35	15
Lbs. butterfat per cow	256	296	302	280	255
	Annual Cost Per Cow				
Total feed cost	$ 61	$ 68	$ 76	$ 62	$ 53
Labor	40	38	40	26	34
Other costs	29	24	35	24	24
Total gross cost	$130	$130	$151	$112	$111
Credits	27	13	15	7	23
Total net cost per cow	$103	$117	$136	$105	$ 88
COST PER LB. BUTTERFAT	$.40	$.40	$.45	$.38	$.35
Ave. Price per Pound B.F.	$.31	$.36	$.54	$.39	$.33

*This table includes only farms producing one type of product exclusively.

both of these factors tending to increase the cost per pound of butterfat. The labor costs per cow indicate that the extra labor of producing clean milk is not much, if any, greater than the labor that is necessary for separating the milk on the butterfat farms.

Data obtained as to the costs of separating milk indicate an average cost of 20 cents per hundred pounds of skim milk. About three-fourths of this cost is for labor, the balance covering the use of the separator and the value of the butterfat lost in the skim milk.

EXPLANATION OF COST ITEMS

The study is being carried on by the survey method in the 22 leading counties in dairy production in Oregon. With the assistance of county agents and others familiar with local conditions in each county an impartial selection was made of representative dairymen with six or more cows, excluding, however, dairymen who are primarily breeders or distributors of fluid milk.

The cost data are obtained from these dairymen in personal interviews by representatives of the Oregon Agricultural Experiment Station. The figures obtained are based largely on careful detailed estimates made by the dairymen, but books and records are used whenever available.

The cost figures given in this report are for the milking cows only, not including young stock. They cover the cost of production of the milk or cream on the farm, ready to be sent to market, but do not include hauling or other marketing costs.

Average Number of Cows in Herd. The number of cows is based on the total number of months that each cow was in the herd during the year, including the dry period. The average number of cows is obtained by dividing by 12 the total number of months for all cows in the herd at any time during the year.

Production per Cow. Although estimates of sales were used in a few cases, for most of the farms the amount of milk or butterfat sold was obtained either from records kept by the dairyman or from the dairy or creamery buying the product. If the product was sold as cream, the equivalent amount of whole milk produced was computed on the basis of the estimated butterfat test of the milk. To the amount sold is added the estimated amounts of milk fed to calves and used in the house, and the equivalent in milk of the cream used, including that churned into butter for home use. The total production of the dairy as thus obtained is divided by the average number of cows (explained above) to obtain the average production per cow.

Amounts of Feed. The amounts of feed consumed by the cows are determined by checking against each other the ration fed and the net amount of feed consumed, as indicated by the total amounts of feed produced on the farm, the amounts purchased, sold, and on hand at the beginning and end of the year, and the amounts consumed by other livestock on the farm.

Roughage. Hay raised is charged at sale value in the barn. Hay purchased is charged at actual cost including hauling.

Succulents. Except in the very few cases of sales of succulent feeds, in which the actual sale value has been used, all silage, kale and other green feed, and roots, are charged at $4 per ton.

Concentrates. Grain and other concentrates purchased are charged at actual cost including hauling. Grain raised is charged at sale value on the farm. If chopped or ground, the prevailing commercial rate for chopping or grinding is included in the value of the feed.

Pasture. Valued at prevailing rates per head per month for pasture of similar quality.

Labor. Includes all labor used in feeding and caring for the milking herd, milking, and cooling and separating the milk, but not labor for raising feed crops, for care of young stock, or for hauling the milk or cream. Includes the work of the operator of the dairy, members of the family, and hired labor, all valued at prevailing wages for similar work and including the value of board if furnished.

Buildings and Equipment. The proportion that was estimated to be chargeable to the milking herd of the interest, depreciation and repairs on buildings and equipment used for the dairy. Interest is computed at 5%; depreciation is based on the value and estimated life of the building or piece of equipment. Purchases of milk cans, buckets, and similar equipment are included as repairs of equipment.

Sire Cost. The cost of maintaining the herd sire was computed separately and is pro-rated to the cows and heifers bred during the year. Breeding fees paid are also included in this item.

Interest on Value of Cows. Five per cent interest on the average value of the cows. The cows were valued at prevailing market price for cows of similar quality.

Depreciation of Cows. This figure represents death loss, and loss on cows sold, but does not include the drop in market value of cattle that occurred during the year. It is computed as follows: The sum of the value of cows sold and the value of the cows at the end of the year is subtracted from the sum of the values of the cows at the beginning of the year, the value of cows purchased and the value of heifers added to the milking herd. From this "net decrease" is then deducted any part of it that is accounted for by a drop in the value of the cows from the beginning to the end of the year, based on market prices.

If, instead of a "net decrease" as computed above, increase in value is shown, as a result of heifers developing or cows showing increased production, the increase has been credited as the item "increased value of cows" in the individual cost statements.

Miscellaneous. A number of smaller items are included under this heading of which the more important are veterinary expenses; medicines and tonics; fly spray; expense for tuberculosis and contagious abortion testing;

dairy herd improvement association expense; bedding, salt; minerals; the proportion chargeable to the milking herd of the insurance on buildings, stock, and stored feed; taxes on the cows; and the amount of auto expense chargeable to the dairy, not including, however, use of the auto for marketing the milk or cream.

Credit for Calves. The estimated value at birth of the calves born during the year, averaging $4 per calf.

Credit for Manure. The dairyman's estimate of the value at the barn of the manure saved. Manure dropped in pastures is not credited because the charge for pasture is a net amount in addition to the manure left in the pasture. The market value of manure varies in different localities. In some places there is no market for it, and some dairymen do not consider it worth anything above the labor of hauling and applying, which is, of course, a considerable item; others, however, could sell it if they wished, for as much as two or three dollars a ton at the barn. The average value was $1 a ton, and the average amount saved was 6 tons per cow.

Credit for Skim Milk. On farms where milk was separated the skim milk is credited at a uniform value of 30¢ per hundred pounds, with the exception that for a few farms where skim milk was bought or sold the actual sale price is used.

Credit for Increased Value of Cows. This item is explained under "depreciation of cows" above.

INDIVIDUAL COST SUMMARY

Each dairyman cooperating in this study receives an individual summary of the costs for his dairy. These individual cost figures are confidential and go only to the one man concerned.

The individual summary is given on the last page of this report. For comparison, average costs are also shown for the region in which the farm is located and for the dairymen who have the highest and lowest costs. Comparison, item by item should indicate where the individual costs are satisfactory and where they are not, and thus suggest ways in which the business may be improved.

For those readers who are not cooperators, comparison of the high, low, and average costs by items should be of interest.

Oregon Experiment Station

D A I R Y C O S T S T U D Y

INDIVIDUAL COST REPORT FOR THE YEAR ENDING APRIL 1, 1931

(Confidential)

Farm of: Address

ITEMS	WILLAMETTE VALLEY			Your Farm
	28 High Cost Farms	28 Low Cost Farms	All Farms (276)	
AVERAGE NUMBER OF COWS PER FARM	10	11	13	
POUNDS OF MILK PER COW	5872	7136	6533	
AVERAGE TEST OF MILK	4.1%	4.6%	4.4%	
POUNDS OF BUTTERFAT PER COW	241	330	287	
	Annual Cost Per			Cow
Roughage: hay, straw, etc.	$ 30	$ 18	$ 23	
Succulents: silage, kale, green feed, etc.	15	12	15	
Concentrates: grain mill feed, etc.	27	24	27	
Pasture:	8	6	6	
TOTAL FEED	$ 80	$ 60	$ 71	
Labor (including unpaid labor of operator and family)	48	33	39	
Buildings: interest, depreciation, repairs	12	7	8	
Equipment: interest, depreciation, repairs	3	3	3	
Sire cost: maintenance of sire, or breeding fees	4	3	3	
Interest on value of cows (5%)	5	5	5	
Depreciation of cows (not including drop in cattle prices during year)	14	2	6	
Miscellaneous: insurance, taxes, veterinary testing fees, bedding, salt, auto, etc.	8	6	7	
TOTAL GROSS COST PER COW	$ 174	$. 119	$ 142	
Credit for calves	6	11	5	
Credit for manure	9	10	10	
Credit for skim milk	4	7	4	
Credit for increased value of cows	-	-	-	
TOTAL NET COST PER COW	$ 155	$ 91	$ 123	
COST PER 100 LBS. OF MILK	2.64	1.28	1.89	
COST PER POUND OF BUTTERFAT	.64	.28	.43	